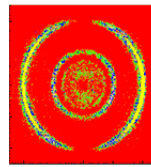


RoentDek DLDs with rectangular geometry



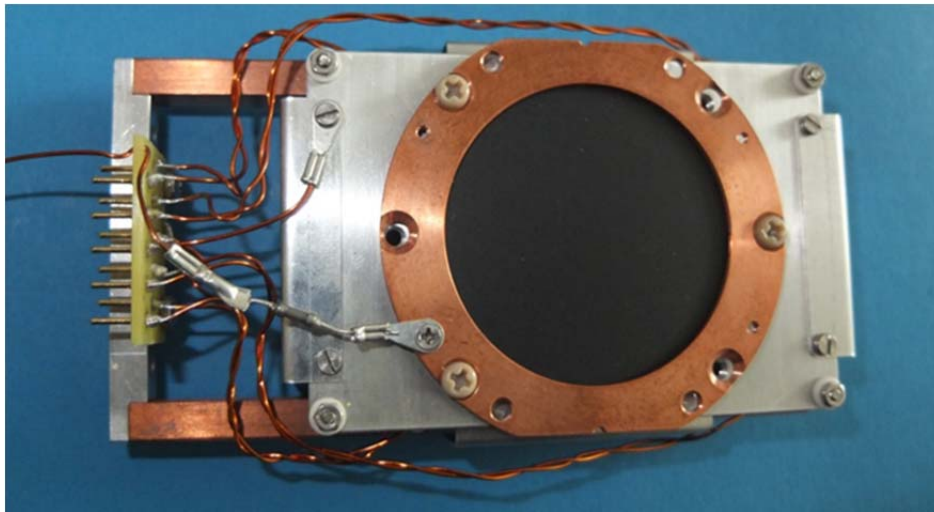
RoentDek

Handels GmbH

Supersonic Gas Jets
Detection Techniques
Data Acquisition Systems
Multifragment Imaging Systems

For applications requiring an extended active area in mainly one dimension (1D) employing rectangular MCP stacks, **RoentDek** offers tailored read-out anodes with 1D or 2D position sensitive delay-line anodes for single particle imaging/counting. A specific rail mounting design is established that can adopt any common MCP stack carriers available from the MCP manufactures.

The standard rectangular DLD design for 2D (= two-dimensional position info) has a “short” active detection height of 40 mm and up to 200 mm active detection in the perpendicular (“long”) direction. Care is taken to allow for a minimum mounting space by reducing the detector footprint in the “short” dimension, which may be as small as 60 mm (typical 70 mm). The design also allows achieving a very flat form factor (< 30 mm detector height for **DLD40SL**).



DLD40SL for sideways mounting on a moveable rod (not shown)

For applications where only one-dimensional position info is required the “short” dimension may be further reduced on demand, however, **RoentDek** recommends to optionally include the second delay-line for system verification and maintenance, even if only one dimension needs to be recorded for the specific experimental task.



DLD40x200 delay-line anode with sideways terminals for very long rectangular MCP detectors.
Anodes for any detection length between 40 and 210 mm can be provided on demand.

The spatial resolution in both directions is as good as for the standard **RoentDek** DLDs, i.e. better than 0.1 mm. The temporal resolution may be as good as 100 ps or better, however, peculiarities of the MCP manufacturer’s choice and carrier design may lead to inferior timing performance.